

Es (e) identifying the DNA molecule by matching the exact migration value with a database of migration values of identified DNA molecules, wherein the database of migration values is independent of the separation.

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E4 60. (Amended) The method of claim 55 wherein the database of migration values comprises migration values for mammalian MHC genes.

61. (Amended) The method of claim 59 wherein the alleles are selected from the group consisting of HLA alleles.

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73. (Amended) A method for identifying a DNA molecule, comprising:

(a) amplifying a DNA molecule to produce amplified double stranded DNA molecules;

E7 (b) denaturing the amplified double stranded DNA molecules into single stranded DNA molecules wherein the single stranded DNA molecules include sense and antisense strands;

(c) hybridizing the single stranded DNA molecules with reference DNA strands which are complementary to the single stranded DNA molecules to form test duplexes;

(d) separating the test duplexes from at least one control duplex run in the same separation;

(e) detecting the positions to which the test duplexes and the at least one control duplex migrate in the separation;

(f) assigning an exact numerical migration value to the position to which the test duplex migrates; and

(g) identifying the DNA molecule by matching the exact migration with a database of migration values of identified DNA molecules, wherein the database of migration values is independent of the separation.

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E8 76. (Amended) The method of claim 73 wherein step (f) comprises:

(i) assigning a migration value to the at least one control duplex; and